In one embodiment, when the boot device driver program is executed the boot driver program executes an initialization procedure 2000, illustrated in FIG. 2B, to configure a RAM disk. The RAM disk refers to system memory 125 that has been configured to emulate a hard disk drive. Files on a RAM disk can be accessed in a similar manner as accessing files on a physical hard disk 180. Being system memory 125 based, RAM disks are significantly (e.g., 1000X) faster than hard disk drives. RAM disks may be useful for applications that require frequent disk accesses. A RAM disk may also be called a RAM drive. Anything that may be executed from a hard disk drive 180 or floppy disk 185 may be executed from a boot CD-ROM 182.

Referring to FIG. 2B, in step 2202, the boot device driver program queries the boot operating system registry settings to obtain default disk size and the desired drive letter. The boot operating system registry has several hard coded drive letters, typically beginning at drive "C:". Thus a computer system 100 which may include 10 hard disk drives may use drive letters "C:" through "N:" inclusively. A count of the number of CD-ROM drives and the number of fixed disks currently included in the computer system 100 is obtained. The boot device driver program verifies that device \device\CdRom0 is present and identifies the RAM drive as the next hard disk. The CdRom device object, e.g., CdRomDeviceObject, is obtained by using IoGetConfigurationInformation method. Only the first device, e.g., \Device\CdRom0, is supported.

In step 2204, the boot device driver program creates a device object for RAW partition, e.g., not formatted and not partitioned. The device name is \Device\HarddiskN\Partition0, where N is the count of drives obtained in previous call to IoGetConfigurationInformation. The device extension for this device object includes an entry for the CdRom device object. The boot device driver program verifies that there is a CD-ROM disc in the target drive.

In step 2206, the boot device driver program calculates the required size of emulated hard disk based on the size of the boot sector of the boot CD. The device driver configures the RAM disk corresponding to the required size of the emulated hard disk. In another embodiment, the RAM disk memory size may default to a fixed value based on the preferred

boot operating system. For example, the boot operating system based on Windows NT or Linux may result in a default RAM disk size of 40 megabytes.

The boot device driver program determines if the geometry can be read from the CD media, including CD-ROM bytes per sector. If the geometry can be read, then the boot record is read along with the El Torito tag information. The catalog sector is read to determine the offset of target image, e.g., its partition boot sector. The partition boot sector is read to determine the disk geometry. The total number of sectors, tracks, and cylinders in the partition, and thus the size of the partition, e.g., the RAM disk, is calculated by the boot device driver program. The number of bytes per sector for CD's is typically 2,048 and not 512.

The boot device driver program creates a device object for the first partition using device name \Device\HarddiskN\Partition1, where N is the count of drives. This partition, which is the RAM disk, is designated as the working partition. The disk count for the computer system 100 is incremented by 1. Memory is allocated from the paged-pool for the RAM disk size specified.

Referring back to FIG. 2A, in step 250, the boot device driver program duplicates or copies the contents of the boot sector included in the removable medium to the RAM disk. The image on the RAM disk is thus identical to the embedded image stored on the boot sector. The boot operating system continues to recognize the CD media as the boot device.

In step 280, the boot device driver program modifies the boot operating system disk/device manager by redirecting the boot device I/O to the RAM disk. In one embodiment, the redirection of boot device I/O is accomplished by modifying the boot operating system, e.g., Windows NT, ARC name and physical disk information tables. An ARC (Advanced RISC Computing) name is a generic method of identifying the location of a file or a program on a device such as a hard disk 180 or a floppy disk 185. A typical ARC name for a boot device may be: multi(0)disk(0)rdisk(1)partition(1). This has a symbolic link to \device\cdrom0 when initially booted to the CD. A symbolic link between the ARC name for the boot device and the name of the device object created, e.g., the RAM disk, is established. Thus, the link is established between multi(0)disk(0)rdisk(1)partition(1),

\Device\HarddiskN\Partition1, where N is the count of drives and drive Y. Drive Y denotes a symbolic link for the boot partition and is used for programming convenience.

In redirecting the boot device I/O to the RAM disk the link is changed to \device\harddiskX, where X represents the actual number of the hard disk and which is the device name for the RAM disk. A virtual disk is thus created for %SystemRoot%. Subsequent read and write I/O requests to the boot device are caught in the operating system dispatch routines and redirected to the RAM disk. The boot operating system on the CD media is not used after the boot device driver has been initialized and after the IoAssignArcName() call method, which implements the redirecting of boot device I/O, has been executed.

By modifying the boot operating system to redirect boot device I/O to the RAM disk, the backing store memory becomes the RAM disk. The CD media is no longer used as the backing store memory, thereby enabling the removal of the removable medium. In step 285, the removable medium may be optionally removed to load the CD-ROM of a preferred operating system.

Although the method and system of the present invention has been described in connection with the preferred embodiment, it is intended to cover such alternatives, modifications, and equivalents, as can be reasonably included within the spirit and scope of the invention as defined by the appended claims.